

What is claimed is:

1. A computer program product for automated e-business services, the computer program product embodied on one or more computer-readable media of a first computing system and comprising:

computer-readable program code means for reading a specification of an e-business service; and

computer-readable program code means for processing the specification to carry out the e-business service, further comprising:

computer-readable program code means for receiving one or more input documents for the e-business service; and

computer-readable program code means for performing one or more of: (1) transforming the input documents into other documents, according to transformation information that may be provided in the specification, and (2) operating upon the input documents and/or the other documents to create one or more new documents, according to operating actions that may be provided in the specification.

2. The computer program product according to Claim 1, further comprising computer-readable program code means for forwarding the other documents and/or the new documents to a computing system other than the first computing system.

3. The computer program product according to Claim 1, wherein the specification and the input documents are encoded in a structured markup language.

1 4. The computer program product according to Claim 1, wherein the other documents and
2 the new documents are encoded in a structured markup language.

1 5. The computer program product according to Claim 3 or Claim 4, wherein the structured
2 markup language is a language known as "the Extensible Markup Language (XML)" or a
3 derivative thereof.

1 6. The computer program product according to Claim 1, wherein the computer-readable
2 program code means for operating upon the input documents and/or the other documents further
3 comprises:

4 computer-readable program code means for invoking one or more software-implemented
5 processes; and

6 computer-readable program code means for coordinating results of the invocations.

1 7. The computer program product according to Claim 6, further comprising computer-
2 readable program code means for repetitively executing the computer-readable program code
3 means for processing, until reaching a final result of the e-business service, wherein the other
4 documents, the new documents, and/or the coordinated results of the invocations now function as
5 the input documents.

1 8. A system for automated e-business services, comprising:

2 means for reading a specification of an e-business service; and
3 means for processing the specification to carry out the e-business service, further
4 comprising:
5 means for receiving one or more input documents for the e-business service; and
6 means for performing one or more of: (1) transforming the input documents into
7 other documents, according to transformation information that may be provided in the
8 specification, and (2) operating upon the input documents and/or the other documents to create
9 one or more new documents, according to operating actions that may be provided in the
10 specification.

1 9. The system according to Claim 8, further comprising means for forwarding the other
2 documents and/or the new documents to a computing system other than the first computing
3 system.

1 10. The system according to Claim 8, wherein the specification and the input documents are
2 encoded in a structured markup language.

1 11. The system according to Claim 8, wherein the other documents and the new documents
2 are encoded in a structured markup language.

1 12. The system according to Claim 10 or Claim 11, wherein the structured markup language is
2 a language known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 13. The system according to Claim 8, wherein the means for operating upon the input

2 documents and/or the other documents further comprises:

3 means for invoking one or more software-implemented processes; and

4 means for coordinating results of the invocations.

1 14. The system according to Claim 13, further comprising means for repetitively executing the

2 means for processing, until reaching a final result of the e-business service, wherein the other

3 documents, the new documents, and/or the coordinated results of the invocations now function as

4 the input documents.

1 15. A method performed by one or more computers for automated e-business services,

2 comprising steps of:

3 reading a specification of an e-business service; and

4 processing the specification to carry out the e-business service, further comprising steps

5 of:

6 receiving one or more input documents for the e-business service; and

7 performing one or more of: (1) transforming the input documents into other

8 documents, according to transformation information that may be provided in the specification, and

9 (2) operating upon the input documents and/or the other documents to create one or more new

10 documents, according to operating actions that may be provided in the specification.

1 16. The method according to Claim 15, further comprising the step of forwarding the other
2 documents and/or the new documents to a computing system other than the first computing
3 system.

1 17. The method according to Claim 15, wherein the specification and the input documents are
2 encoded in a structured markup language.

1 18. The method according to Claim 15, wherein the other documents and the new documents
2 are encoded in a structured markup language.

1 19. The method according to Claim 17 or Claim 18, wherein the structured markup language
2 is a language known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 20. The method according to Claim 15, wherein the step of operating upon the input
2 documents and/or the other documents further comprises steps of:
3 invoking one or more software-implemented processes; and
4 coordinating results of the invocations.

1 21. The method according to Claim 20, further comprising the step of repetitively executing
2 the processing step, until reaching a final result of the e-business service, wherein the other
3 documents, the new documents, and/or the coordinated results of the invocations now function as
4 the input documents.

1 22. A method of conducting business by using automated e-business services, comprising
2 steps of:

3 reading a specification of an e-business service; and

4 processing the specification to carry out the e-business service, further comprising steps

5 of:

6 receiving one or more input documents for the e-business service; and

7 performing one or more of: (1) transforming the input documents into other

8 documents, according to transformation information that may be provided in the specification, and

9 (2) operating upon the input documents and/or the other documents to create one or more new

10 documents, according to operating actions that may be provided in the specification.

1 23. A method of defining e-business process and data interactions, further comprising steps of:

2 defining data inputs to be used by an e-business service;

3 defining interactions to be carried out when operating the e-business service;

4 specifying details of the data inputs in a structured markup language syntax;

5 specifying details of the interactions in the structured markup language syntax; and

6 creating one or more e-business service definition documents wherein the specified details

7 of the data inputs and the specified details of the interactions are recorded.

1 24. The method according to Claim 23, wherein the structured markup language is a language
2 known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 25. A method of defining process and data interactions for an application described by a finite
2 state machine, further comprising steps of:

3 defining data inputs to be used by the application;
4 defining interactions to be carried out when operating the application;
5 specifying details of the data inputs in a structured markup language syntax;
6 specifying details of the interactions in the structured markup language syntax; and
7 creating one or more application definition documents wherein the specified details of the
8 data inputs and the specified details of the interactions are recorded.

1 26. The method according to Claim 25, wherein the structured markup language is a language
2 known as "the Extensible Markup Language (XML)" or a derivative thereof.

1 27. A method performed by one or more computers for automating data and process
2 interactions between a first application and one or more other applications, comprising steps of:
3 providing one or more application definition documents encoded in a structured markup
4 language, wherein the application definition documents specify the interactions and one or more
5 data inputs to be used in the interactions, and wherein details of the specified interactions and data
6 inputs are specified in the structured markup language; and
7 processing the application definition documents to carry out the data and process
8 interactions.

1 28. The method according to Claim 27, wherein the step of processing the application
2 definition documents further comprises steps of:
3 receiving one or more input documents to be used by the interactions; and
4 performing one or more of: (1) transforming the input documents into other documents,
5 according to transformation information that may be provided in the application definition
6 documents, and (2) operating upon the input documents and/or the other documents to create one
7 or more new documents, according to operating actions that may be provided in the application
8 definition documents.

1 29. The method according to Claim 28, further comprising the step of forwarding the other
2 documents and/or the new documents to from one or the computers to another of the computers.

1 30. The method according to Claim 27, wherein the structured markup language is a language
2 known as "the Extensible Markup Language (XML)" or a derivative thereof.